

Regulates Sewage Disposal From Pleasure Craft

## Boating Legislation Officially Takes Effect

Ontario legislation regulating the disposal of sewage from pleasure boats has officially taken effect this month.

Basically, the legislation stipulates that all vessels with sleeping accommodation be equipped with a marine toilet and an approved device which will store or dispose of human sewage.

Enforcement of the legislation is directed by the Ontario Water Resources Com-

mission, in co-operation with policing agencies and departments of government throughout the province and at ports of entry.

Holding tanks, with and without recirculation, which store the wastes from marine toilets for subsequent shore disposal are the only types of devices which presently meet with OWRC approval. Mace-rator chlorinator units may be acceptable, only by permit, until June 1, 1971.

Extra-provincial craft in Ontario waters must be equipped with holding or treatment devices approved by home jurisdictions, under the new regulations. The discharge of untreated waste is prohibited.

In addition, the legislation stipulates that owners or operators of all pleasure boats must make provision for the storage of waste that is not of human origin, for disposal at shore facilities.

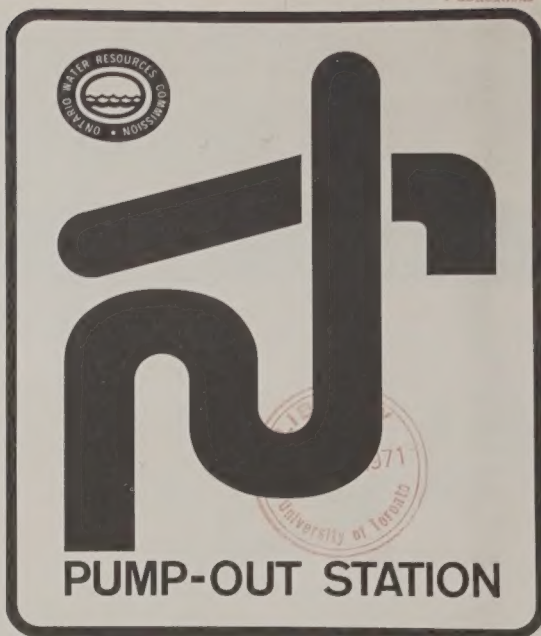
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Water management in Ontario

# Watertalk

VOL. 2, NO. 1

JANUARY, 1969



OWRC PUMP-OUT SIGN, available to all marina and boat club operators, will become a familiar sight to Ontario boaters. The large, metal sign (28" by 36") has a black pump-out symbol and blue crest and border contrasted against a white background.



COMMISSION RESEARCH TECHNOLOGIST Werner Lewandowski adjusts apparatus being used for studies of chemical treatment of domestic sewage. Objective of the experiment is to develop one step chemical treatment for removal of suspended solids, phosphorus and biochemical oxygen demand. A second stage could then be added to remove nitrogen.

### 'Natural Resource Tragedy Of Our Time'

## FWPCA Calls For Major U.S. Expenditure To Curb Lake Erie And Lake Ontario Pollution

Two reports issued this winter by the U.S. Department of the Interior's Federal Water Pollution Control Administration call for massive expenditure by U.S. municipalities and industry to curb the pollution of Lake Ontario and Lake Erie.

The Lake Erie report calls for an immediate start on spending \$1.1 billion to control municipal pollution and \$285 million for curbing industrial pollution.

According to the study these expenditures would suffice to curb pollution from cities and industries through 1990 and would begin reversing the degradation trend in the lake.

Commenting on the report, then Secretary of the Interior Stewart L. Udall said that "while Lake Erie is seriously polluted, this report has found that it can be rescued. We owe it to posterity to make an all-out effort to save this most seriously polluted of the Great Lakes while there is still time."

The Lake Ontario report,

covering 229 municipalities and 200 industries in the New York state area lays the major share of the blame for pollution on industry and says that more than \$300 million will have to be spent to improve pollution abatement along the south shore of the lake. The study notes that of more than 200 industries in the lakefront area only a few dozen are equipped with treatment facilities.

Referring to the rising pollution of the Great Lakes as the "natural resource tragedy of our time", Secretary Udall pointed out that "these magnificent inland seas" could eventually be destroyed.

On the Canadian side, OWRC has been giving active attention to the Great Lakes, monitoring and analyzing the quality of rivers flowing into the lakes as well as the lakes themselves.

Since OWRC was formed, new sewage treatment plants have been built at more than 60 locations on the Ontario shore.

## Signing Ceremony In South Peel Ratifies \$88 Million Project

The official signing of agreements last month between five South Peel municipalities and the Ontario Water Resources Commission has cleared the way for the development of a massive \$88 million water supply and sewage system in the area. The cost figure is estimated to cover the initial 20-year period of construction. The signing took place in the council chambers of the county of Peel in Brampton.

The scheme — the largest ever undertaken by OWRC — will supply treated Lake Ontario water to the towns of Mississauga, Port Credit, Streetsville, Brampton and the southern portion of the township of Chinguacousy and accept sanitary sewage from each municipality for treatment and disposal. Local service will continue to be provided to citizens of each municipality by their present water and sewage authorities.

The projects are being financed via a provincial plan,

under which the municipalities will pay for the services on the basis of use only. OWRC will own and operate the systems on behalf of the Province of Ontario.

The area to be serviced by the water supply and waste disposal plans covers some



ENGINEER-MANAGER of the project, A. L. Thomas, checks small-scale map of the system.

480 square miles, running from Oakville on the west to the Metropolitan Toronto boundary on the east and extending about 20 miles inland from Lake Ontario.

Water supply will be facili-

tated by an interconnected system of provincially owned reservoirs and pumping stations. The initial source of supply will be the Lakeview Water Purification Plant, in Mississauga, but if conditions warrant, the plans include the construction of a second filtration plant.

Sewage will be conducted to two existing sewage treatment plants at Clarkson and Lakeview which will be enlarged in stages as required. OWRC operation and management of the combined system will begin six months from the official signing date.

Gore and Storrie Ltd., consulting engineers, and Canadian British Engineering Consultants Ltd., have been engaged as prime consultants to the Commission in the further development of the water works and sewage works programs, respectively. The direct administration of the project will involve an engineer-manager attached to OWRC.



ROUND TABLE APPROVAL: South Peel officials and OWRC management circulate documents ratifying development of \$88 million water supply and sewage system. Signing took place at Peel council chambers in Brampton.

## Watertalk

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## A Matter Of Policy . . .

*Is it fair to make boat owners spend hundreds of dollars on expensive sewage control equipment when heavier pollution still continues from other sources?*

This is a question that has often been posed to OWRC since it was announced that legislation would be passed regulating the disposal of sewage from pleasure boats.

The question implies that OWRC pollution abatement activities are neglecting the main polluters and, ludicrously, concentrating on the boater.

Nothing could be further from the truth.

### INDUSTRY REGULATED

OWRC has already made it mandatory for any new industry in Ontario to include adequate waste treatment facilities as an integral part of its plant. This means that new industries will be doing their share to combat pollution in the province.

More than 2,000 industries throughout the province are continually inspected by OWRC staff. Where waste treatment facilities have been feasible and affordable, OWRC has helped out with technical aid. Where the necessary anti-pollution measures would have cost several million dollars, companies have been placed on staged, five year programs.

### MUNICIPAL PROJECTS

Since its formation, in 1957, OWRC has been able to provide financing for over 700 projects in municipalities. Recently, new legislation has made it possible for OWRC to build treatment plants with provincial funds with municipalities paying for the services on the basis of use only.

The boating regulations, then, are in keeping with OWRC's policy to eliminate pollution from all sources.

It would be a mistake to argue that some pollution sources should be ignored because they are relatively minor.

The new regulations will help to ensure that Ontario's recreational waters will continue to remain clean for all of us—including the boating population—to enjoy.

## This Man Built His Own Pump-Out Unit

Midland Marina Operator, Bill Rycroft, Beat Implementation Date Of New Legislation

Regulating Disposal Of Sewage From Pleasure-Craft By Nearly A Year--With A 'Home-Made' Unit



READY FOR NEXT SEASON, Bill Rycroft grips pump handle of head pumping unit which he designed himself.

"Any marina worth its salt doesn't have to pay much for pump-out facilities."

The speaker is Bill Rycroft, a Midland marina operator who, besides welcoming the new regulations regarding sewage disposal from watercraft, is an ardent proponent of the 'do it yourself' philosophy. Last year, while others pondered the "high cost" of pump-out facilities, he went ahead and constructed his own unit at a cost of less than \$250. Mr. Rycroft claims that the majority of marinas have the tools and material with which to construct similar units.

If a pump-out system can be called beautiful, Mr. Rycroft's unit suits the word because of the simple efficiency of his design. Basically, it consists of an outboard motor test tank mounted on wheels purchased from a local auto wrecker. To these Mr. Rycroft has welded a tongue and trailer hitch and built in an outlet valve and pump with hose. Because of its mobility, the 250 gallon unit can easily be emptied at the nearby Midland waste treatment plant, where OWRC has provided a roadway and hosing facilities for the use of pump-out operators.

Mr. Rycroft's reasons for building the unit were partly economic and partly aesthetic. "Marina operators aren't rich," he says. "If I get paid and can make a profit, I would be foolish to pass it up." He adds that he doesn't like swimming in polluted water and that it "doesn't make sense" to contaminate water

that you are swimming in.

Can pump-out operation really be profitable? Mr. Rycroft believes it can. In his first season of providing the service, at a charge of \$3. per pump-out, he has recovered more than half of his investment. With implementation of the new regulation, he expects that demand for the service will steadily grow.

Though 52 years old, Mr. Rycroft is a relatively new member of the marina field, having purchased the marina just six years ago. With the help of his wife (who he is quick to stress as an 'equal partner') he has built the business up to the point where

during the peak period last summer, 125 boats were based at his docks. Besides providing winter shelter for boats, he has over 150 outboard engines in for winter storage and servicing. When interviewed by Watertalk he had just concluded a snowmobile sale.

Mr. Rycroft pooh-poohs the suggestion that boat owners and marina operators are being 'victimized' by the new government legislation.

"Regulations are being applied to everybody," he points out, "not just the boaters." And, with the hint of a double meaning, he adds, "The effect of the regulations are being felt all over."



MOBILITY OF THE UNIT allows it to be easily emptied at the nearby Midland sewage treatment plant. Mr. Rycroft constructed the unit basically from used parts. Main cost, other than for parts, was welding.

## How Legislation Stands In Other Areas Bordering The Great Lakes

Most of the states bordering the Great Lakes either have already implemented legislation or have regulations "on the books" governing the control of sewage in pleasure

boats. Discussions have been held with these bodies regarding compatibility of legislation, equipment standards, and implementation of the regulations. Below is a tabu-

lation of the characteristics of state and provincial legislation to date.

### ILLINOIS

Specific rules and regulations, taking effect January 1, 1970, require watercraft with

toilet facilities to be equipped with pollution control devices. Vessels engaged in interstate traffic are included.

### INDIANA

The operation of toilets on boats in state waters is prohibited except on Lake Michigan unless steps are taken to insure that no wastes can be discharged to the water from such facilities. An amendment

### MINNESOTA

The use of marine toilets equipped with a suitable treatment device is permitted. Registration is contingent upon certification that watercraft with marine toilets are equipped with an acceptable

January 1, 1970. The legislation applies only to pleasure boats equipped with marine toilets.

### MANITOBA

No regulation relating specifically to watercraft has been implemented.

### NEW YORK

Regulations approving holding tanks only will take effect March 1, 1969.

### OHIO

The use of marine toilets except on the main stem of the Muskingum River and Lake Erie is prohibited.

### PENNSYLVANIA

No law specifically relating to wastes from watercraft has been implemented. The state's "Clean Streams Law" prohibits the discharge of sewage or any noxious and deleterious substance into state waters.

### QUEBEC

No regulations relating specifically to wastes from watercraft have been tabled.

### WISCONSIN

Overboard discharge from watercraft in state waters is prohibited. All marine toilets must discharge into either a holding tank or an incinerator.

### Pump-out Service

To date about 50 marina and boat club operators throughout Ontario have confirmed that they will be supplying pump-out service in the coming boating season. It is anticipated that this number will grow by summer.

To aid in the identification of operators providing the service, OWRC is supplying a free pump-out identification sign with symbol. Information on both pump-out facilities and pleasure boat sewage retention systems is readily available through OWRC's sanitary engineering division.

Maps showing pump-out locations throughout the province will be available to the boater by summer.

has been proposed to include Lake Michigan after 1969.

### MICHIGAN

Legislation has been passed which will prohibit the overboard discharge of wastes from pleasure boats whether treated or untreated after

treatment device. The state also prohibits the discharge of other wastes and the abandonment of containers holding sewage or other wastes which might create a nuisance, health hazard or water pollution.

## One Industry's Solution To A Liquid Waste Problem

In 1965 McKinnon Industries Limited, of Windsor, Ontario, was numbered among those heavy industries in the municipality with a liquid waste disposal problem. A subsidiary of the massive General Motors Corporation, McKinnon manufactures between 1,700 and 1,800 automatic transmissions daily for vehicle assembly plants located in Canada and throughout the world.

Cutting, cooling, and lubricating oils from this process, as well as other waste materials, were being discharged to the Windsor municipal sewerage system in an untreated state at the rate of 1,000 gallons per day, contained in a total effluent flow of about 200,000 gallons.

Things, however, got better at McKinnon instead of worse—so much better, in fact, that Windsor Mayor John Wheelton was recently moved to congratulate the company for the "very significant contribution" which it had made for the provision of clean water in the area.

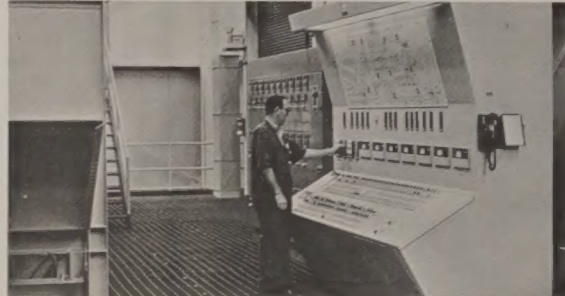
The occasion for Mayor Wheelton's speech was the official opening of McKinnon's new waste treatment plant, last September, beating the implementation date of Windsor's new sewer-use by-law by a year. The by-law has been enacted by the municipality to ensure that all industrial wastes entering the city sewage system will be amenable to treatment by a new sewage treatment plant scheduled for completion in August, 1969. McKinnon has become the first of the industries to install treatment facilities to comply with the new by-law.

Part of the reason for McKinnon's early installation of the treatment plant is undoubtedly the high level of organization within the GM industrial complex and the effective channels of communication that exist be-

tween GM top management and individual plants.

"If you have a problem—don't wait. Clean it up!" is GM's official attitude to all operating aspects, including wastes, says plant engineer Dave Elcomb who supervises the operation of the new treatment plant. Even Mr. Elcomb, though, admits to having been

committee is a formidable organization—perhaps unique—composed of GM personnel who have tackled many waste problems. This "pathfinder force" examined McKinnon's particular problems and recommended to the plant engineering department what type of treatment system should be constructed and the kind of



Above: Technician inspects space-age console from which every step in treatment process can be completely controlled. Flotation unit can be seen at opposite side of photo. Right: Plant engineer, Dave Elcomb compares effluent from clarifier (in his right hand) to sample from earlier alum mix stage.

"a little surprised" by the positive response received from GM management when, shortly before the sewer-use by-law was proposed in 1965, McKinnon suggested that it would like to move ahead with waste treatment.

Almost immediately, with the co-operation of the Windsor Public Utilities Commission, an in-plant survey was begun to establish a pattern of the factory's water uses.

Because of GM's previous experience with various waste problems at other factories, McKinnon had a distinct advantage over most companies. Soon after the decision was reached to install treatment facilities, a meeting of GM's Industrial Waste Treatment Committee was called. The



equipment that should be used. After analyzing many proposals, McKinnon's own plant engineering department selected Trace and Glos Architects and Engineers, of Windsor, as consultants for the system.

What finally emerged from all the planning was an impressive \$1.8 million treatment system which, according to OWRC's most recent survey, accomplished in excess of 90% removal of oils—above the requirements of the by-law.

"We tried to put in equipment to anticipate tightening of the by-law," Elcomb explains, "Management realizes that today's parameters are not the end."

To keep the treatment plant functioning smoothly has required considerable re-orientation of personnel, says Mr. Elcomb. For one thing, McKinnon's purchasing department has been instructed to standardize the coolants and chemicals purchased to facilitate easier waste treatment. To answer the question "Why?" McKinnon has held classes on the treatment processes for all salaried personnel.

Currently McKinnon is investigating uses for oil reclaimed from the treatment process. Mr. Elcomb feels certain that it will be used as fuel in the company's steam heating plant. When and if it becomes economical, he adds, the treated water will be re-circulated and used over again.

Perhaps the best testimony to the effectiveness of the McKinnon treatment plant is a silent one. For about two months tropical fish lived in an aquarium totally supplied by treated water from the system. One night somebody turned off the heat and they almost froze to death. Otherwise, though, they appeared to enjoy every minute of their stay.

## The Anatomy Of A Waste Treatment Plant

Basically, there are three phases of treatment in the McKinnon complex—initial treatment of raw wastes, treatment of wastes after they have undergone partial purification, and additional treatment of semi-solid material removed at various stages in the cycle.

Raw process wastes are collected in one of three 100,000 gallon holding tanks to eliminate surges and enable treatment to be undertaken at predetermined intervals.

After an initial period of quiescence, floating oils are removed by skimming. The remaining oily-waste emulsion is vigorously agitated and pumped to the alum mix tanks where alum and sulphuric acid are added to the mixture to break the oil-water emulsion. The flow is then split, with approximately equal volumes entering each of two flotation units. In these units, a portion of the waste flow is diverted, saturated with air un-

der pressure and reintroduced into the waste stream.

Minute air bubbles formed in this process attach themselves to the oils and solids in the wastes, forming an agglomeration which floats to the surface of the liquid in the flotation units. This floating scum is removed periodically by skimming and pumped to the scum storage tank for further processing.

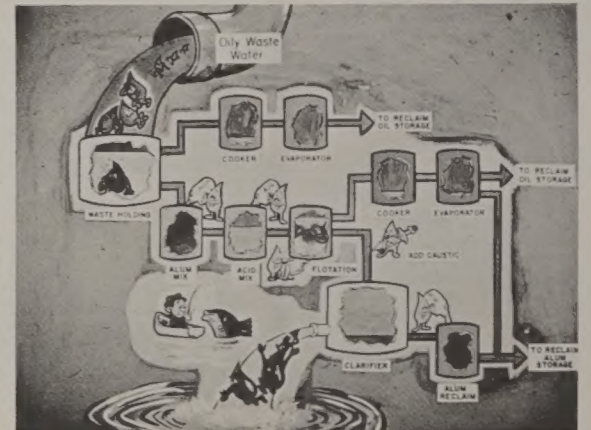
The partially treated waste is then neutralized with liquid caustic soda and directed to a large 210,000 gallon clarifier. Here, by additional skimming, any remaining oil left on the surface is removed. Sludge settled in the clarifier is removed through a cone shaped bottom for special treatment.

Oils and solids which are removed at various points in the treatment cycle are fed into large 1,750 gallon cookers where the moisture content of the wastes is reduced by approximately 90%. The dewater-

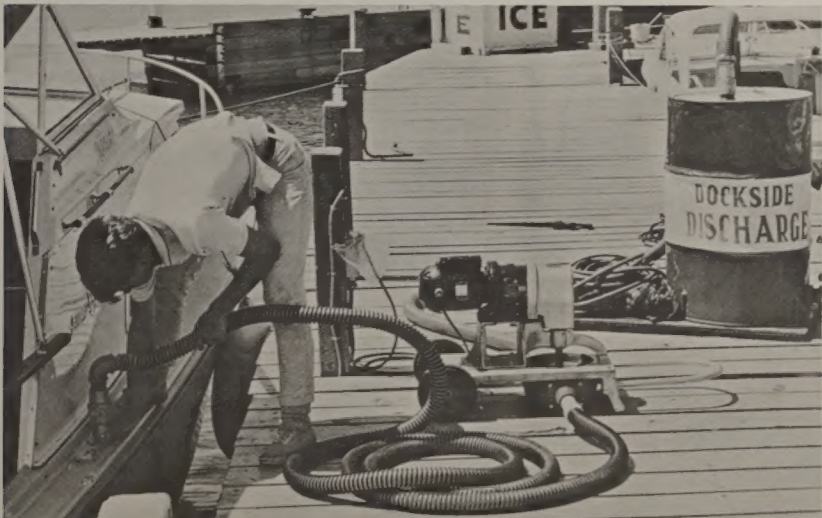
ered waste is at present being land disposed.

Special treatment given to the wastes removed from the flotation units consists of the addition of sulphuric acid to the mass and heating at 212°F.

for two to three hours, followed by cooling and settling. The settled solids are returned to the reclaimed alum storage tank, for further use, and the remaining waste liquid held for land disposal.



ARTIST'S DEPICTION of waste treatment process at McKinnon's new plant. Clean water is shown emerging jubilantly at the bottom.



HOLDING TANK IN CRUISER is pumped out by machine operated pump. The 40 gallon drum is for illustrative purposes only but might be of practical value in low traffic areas. Capital costs vary upwards from \$150. Even most sophisticated of equipment should be easily operated by unskilled labour.



A DISTINGUISHED VISITOR at the opening ceremony of the Big Bob River Water Supply System was the Honourable Leslie M. Frost a former prime minister of Ontario as well as a former MPP for the Bobcaygeon riding. In photo he is flanked by Reeve R. A. Thompson (left) and Mr. W. H. Hill, plant operator.

## Two New Provincial Projects Declared Operational In Ceremonies At Bobcaygeon And Haileybury

Two recently completed provincial projects—The Big Bob River Water Supply System and the Timiskaming Water Pollution Control Plant—were officially declared operational by OWRC early this winter.

Principal speaker at dedication ceremonies for the projects, held at Bobcaygeon and Haileybury respectively, was J. H. H. Root, vice-chairman of the Ontario Water Resources Commission.

Construction of the water treatment plant, at Bobcaygeon, commenced in April of 1968 and was completed by October, at an estimated cost of \$200,000.

Initially the supply system will serve the south side of Bobcaygeon. However, the treatment plant has the capacity to supply all of the village and, when construction of the distribution system is completed, all sections will receive water from the new plant.

Construction of the Timiskaming plant servicing Hailey-

bury, began in 1967 and was completed last fall. Total cost for the project was \$400,000.

Features of the new plant include variable rate pumping, an activated sludge treatment process, and a lake outfall sewer consisting of large diameter fusion welded polyethylene plastic pipe. The new

pumping station has an overflow connection for receiving excessive amounts of water during rainstorms.

Both projects were financed under a provincial plan which requires the municipalities to pay for services on a use basis only. OWRC owns and operates the plants.



PLATFORM GUESTS at the official opening of the Timiskaming Water Pollution Control Plant included C. Dunn, chairman of the Haileybury Water Works Commission (at lectern), J. H. H. Root, MPP, OWRC vice-chairman and Rev. C. Lapointe.



## News Round-up

- A resolution, sponsored by 54 members of the United Nations General Assembly last month, calls for an international conference in 1972 to organize a world-wide defence against pollution. The resolution, originated by Swedish delegate Sverker C. Astrom, seeks to alert all nations to the need for understanding the relationship between man and his environment.
- Quebec minister of natural resources, Paul E. Allard, announced recently that a Quebec "water society" might be formed to unify attempts at pollution abatement throughout the province. Formation of the movement, to be known as a SOQUEAUX (Societe Quebecois des Eaux) will depend, he said, on the co-operation on industry, governments, and citizens. Mr. Allard made the announcement at the annual convention of the Quebec Wildlife Federation, held in Montreal.
- J. R. Marsh has been appointed as district engineer for OWRC's new Lakehead Regional Office. In his new position Mr. Marsh will be in charge of OWRC sanitary engineering operations in the area. A graduate of the University of Waterloo, Mr. Marsh joined the Commission in 1964 and was previously an assistant district engineer in OWRC's sanitary engineering division.
- Waste disposal plans of Dow Chemical of Canada Limited, in Sarnia, and the E. B. Eddy Company Limited, at Ottawa, have been approved by OWRC. Changes in methods of production at a new ethylene oxide plant, constructed by Dow to replace an existing one, will result in a greatly reduced waste material discharge to the St. Clair River. Included in this will be a 65% reduction in the company's daily chloride waste discharged to the river. At E. B. Eddy, a submerged outfall will replace an existing surface outfall serving the company's Specialty Mill in Ottawa. At the new outfall location, the river flow is fast and turbulent and will give rapid dispersion of discharged wastewaters without any surface visual impairment. Estimated cost of the installation, expected to be completed by February is \$26,500. Dow Chemical has also been requested by the Commission to study means of discharging its plant sanitary sewage to a proposed municipal sewer which is expected to be available in 1970.

### Pre-Election Commitment

## Pollution: A Test For Nixon?

Early tests are seen for President Richard Nixon's pre-election commitment to attack and resolve pollution problems.

During his campaign, Mr. Nixon acknowledged the necessity for strong federal leadership in the abatement of environmental pollution.

A major problem, immediately facing Mr. Nixon and his new Secretary of the Interior, Governor Walter Hickel of Alaska, is finding the funds to finance programs begun by the Johnson administration. During Johnson's term of office, many projects were begun without sufficient

funds to sustain them.

The Federal Water Pollution Control Administration, headed by Stewart S. Udall, Secretary of the Interior during the Johnson term, brought pressure to bear on state and local government, as well as industry, to begin clean-up projects. A statement by Mr. Nixon that private industry must help lead the way has led to speculation that there may be a slowdown in the pollution abatement process in favour of a "partnership" policy.

As Secretary of the Interior Mr. Hickel will be the focal point of many key conservation issues.

### To Determine Treatment For Muskokas

## Experiments in Nutrient Removal Conducted

Concern of Muskoka residents over increased algae problems in those lakes has led to an OWRC experiment

along with nitrogen and phosphorus, stimulates growth of algae.

Carbon is removed in the

periment, activated sludge will be fed into each of four tanks containing a quality of water approximating that found in the Muskokas. When a good algae growth is evident in all tanks raw sewage will continue to be fed to the first tank, while sewage going to the second, third and fourth tanks will be treated for phosphate, nitrogen, and nitrogen and phosphate removal respectively.

To approximate natural conditions in the lakes, the tanks will be subjected to constant temperatures and lighting conditions in an incubator. The water will be fed into the tanks at a rate which will displace the volume every 20 days in order to stimulate the retention period of the lakes.

The effects on the algae of the various treatments will be compared, by OWRC scientists, to more accurately assess the treatment necessary for the Muskokas.



PROJECT ENGINEER Steve Black keeps close watch on developments in special "incubator—growth chamber." Natural conditions are simulated in the chamber as part of experiment.

to determine the effects of nutrient removal programs in soft water lakes. Soft water lakes, such as the Muskokas, are low in carbon which,

conventional treatment of wastes whereas the other nutrients—nitrogen and phosphorus—are not.

In the first stage of the ex-



## West Coast Water Workshop

SOME OF CANADA'S top resource personnel gathered in Victoria, B.C., last month for a special water workshop seminar, sponsored by the Canadian Council of Resource Ministers. Items on the agenda included discussions of the problems, approaches and priorities for development of water resources in Canada as well as a consideration of the intergovernmental aspects. Shown in photo (l. to r.) are chairmen of five provincial water resource bodies—E. S. Fellows, New Brunswick Water Authority, Dr. J. A. Vance, Ontario Water Resources Commission, Judge H. W. Pope, Saskatchewan Water Resources Commission, E. L. L. Rowe, Nova Scotia Water Authority and A. J. Hiscock, Prince Edward Island Water Authority.

## 'The Queen' Gets Special Treatment At Haileybury Opening

'The Queen' played hard to get at the official opening of the Timiskaming Water Pollution Control Plant in Haileybury this winter.

OWRC's carefully planned program called for a taped rendition of *God Save The Queen* at the end of the ceremony.

The trouble was that no one knew where the song was on the tape.

As local and provincial officials stood stiffly at attention, in freezing weather, OWRC's Jim Black (public relations and information) hunted throughout the tape for the song.

Several times he got static

and finally—horror of horrors—*O Canada*. (*O Canada* had been sung at the beginning of the program.)

At this point, OWRC director of public relations and

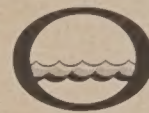
information Murray Cheetham entered the picture.

Why don't we sing 'The Queen?', he suggested.

After a quavering start—understandable because of

the weather—the group went on to deliver a tolerable, if not musical, rendition of the song.

Then everybody headed for cover.



Water management in Ontario

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JIM BLACK: His luck finally ran out at Haileybury opening.

## Sprinklers Third In League Trailing Club 55 And Customs

OWRC Sprinkler coach, Jim Stasiuk, sanitary engineering, is "glad we're not sitting on top" in the Queen's Park Hockey League standings.

At press time the Sprinklers were in third place with five wins, two losses and two ties, trailing Club 55 and Customs by three points. (Club 55 and Customs were tied for first place.) According to Stasiuk, this is "part of the slow build-up" that he envisaged at the beginning of the season. This plan calls for the Sprinklers to gradually develop their strength so that their maximum effort is realized during the play offs.

Already, says Stasiuk, there are signs that his plan is working.

"The team is just beginning to gel. The players are taking the game more seriously and have assessed the other teams and can anticipate their moves."

The teams are now in the second half of the hockey season. The top four teams emerging from these games will engage in the play-offs.

According to Stasiuk, the Sprinklers are an extremely well balanced team this year. Difficulties are most often encountered, he says, when key players are out of town on job assignments.

When the team has a good turn-out, he points out, the forward line defence is very strong, allowing for heavy body-checking.

Stasiuk notes that Sprinkler Goalie, Barry Campbell, remains one of the top players in the League. Campbell, who last year won the trophy for best goalie in the League is again in hot competition. Last year the trophy was presented by Carl Brewer of the Toronto Maple Leafs.

The play-offs will take place in March.



SPRINKLER GOALIE, Barry Campbell, who has consistently remained one of the top players on the team is in the running again for trophy awarded top goalie in Queens Park Hockey League. Above he is shown receiving trophy last year from Maple Leaf star Carl Brewer.

### Fouls Firelines

## Polluted Canal Has Its Revenge

Attempts of fire-fighters to quash a blaze in Palmer, Massachusetts, were foiled recently by water so polluted that it was of no use in the fire-fighting operation.

Firemen arriving at the scene of the blaze attempted

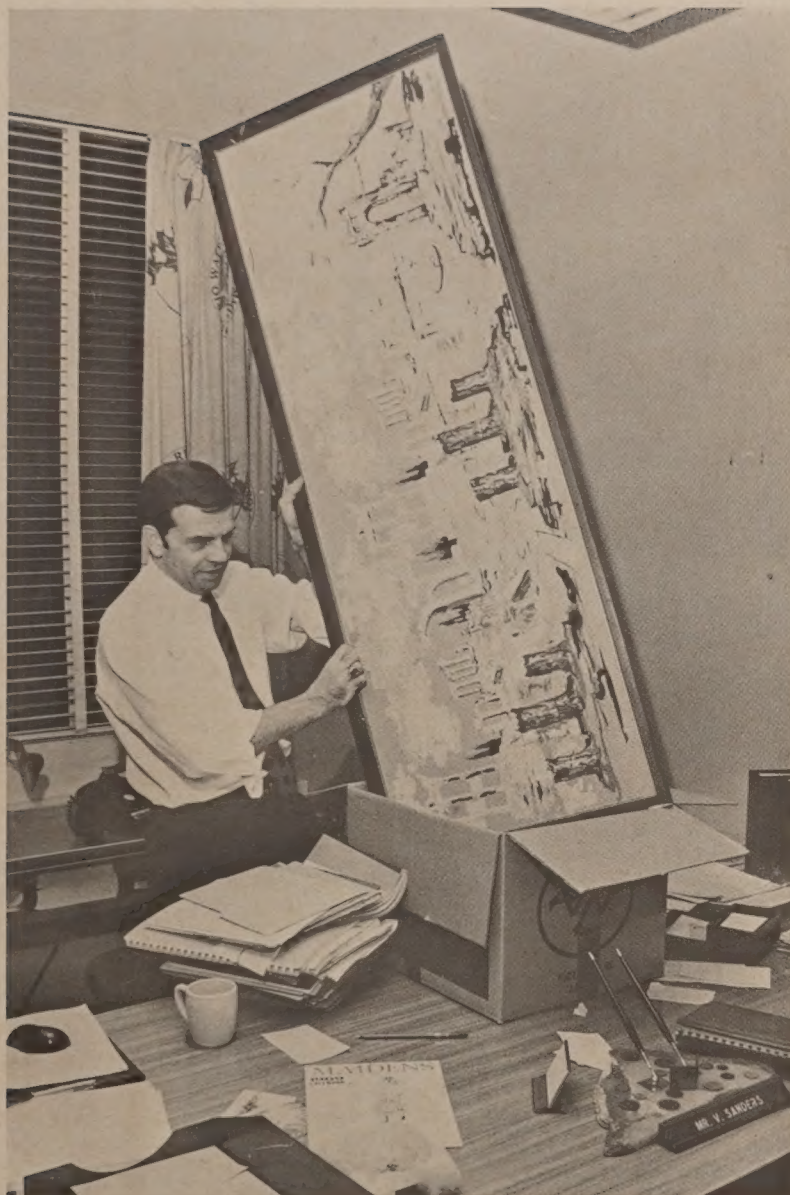
to pump water from a nearby canal but waste and debris in the canal so fouled firelines that pumps couldn't provide the needed water.

The fire caused an estimated \$18 million damage and threw 400 persons out

of work.

Seven industries in the municipality, largely responsible for the pollution, were destroyed in the fire.

The canal was initially built partly for fire protection.



## Wrong Size Box

Vic Sanders, systems and procedures officer, runs into problems (above photo) as he prepares for The Great Move. Systems and EDP was the first of the divisions to

take possession of new offices at 135 St. Clair.

In accordance with carefully drawn up schedule, all divisions and departments going to 135 St.

Clair will be moved by February 7.

It is estimated that move to 40 St. Clair will take place on February 28. Staff should be well settled in by spring.

## Nature And Man

# Man's Faust-Like War With The Environment

ALMOST everybody is acquainted with the story of *Faust*. Believing that the key to happiness lay in control of the elements, Faust made a pact with the devil in order to achieve that power. Faust, however, proved unequal to the demands which such control imposed upon him. Once in control of the elements he didn't really seem to know what to do with them. Far from achieving his objective, misuse of his gift to appease shallow, materialistic ends ultimately led to disillusionment and despair.

Obviously, the Faustian legend has more than literary applications. In fact, the Faustian concept, arising as it did in the 15th century, symbolizes the end of an era—an age when nature was viewed as a vast, unchangeable infinite, beyond the influence of man. *Faust* suggests the concept of man that is popular even today—a controller of the elements—a creature without boundaries.

Ironically, as man gained in stature, relative to his environment,

nature became increasingly finite and susceptible.

In the 20th century, man's demands upon his environment have grown to such an extent that the finiteness of nature has been established beyond doubt.

But though his technique for the control of nature has become highly developed, man has generally failed to develop a pattern to preserve the viability of his environment.

Part of the reason for this has been the socio-economic outlook that usually guides man's actions. Society too often seems unconcerned about nature as long as material demands are being satisfied. Economic outlook generally seems to sell out the long term for quarterly dividends.

Thus, technological manipulations to satisfy the demands of the industrial-urban society have multiplied and increased the complexity of waste products without providing a corresponding compensatory development in the field of conservation.

Like Faust, 20th century man so

far has proven to be less adept in a creative role than in a superficial and, ultimately, self-defeating role. Just as Faust wasted his powers transmuting base metals into gold, for which he had no real need, 20th century man has tended to ignore issues vital to the healthy existence of his environment because of relatively inconsequential factors.

Has the industrial-urban society then, Faust-like, consorted with the devil? Will the price that we pay for a myriad of gadgets be ruination of our environment?

The answer perhaps lies in man's ability to compromise his demands with the limitation of the environment to support them. No longer can man afford to conduct an "economic war" against nature; there must be built-in compensation for the effects of his technology on the environment.

A "conservation conscience" must be developed to ensure that "progress" is not synonymous with environmental destruction. Otherwise, the tragedy of the Faustian legend looms before us.

## UN Delegates Express Alarm At Extent Of Pollution

In supporting a resolution to integrate pollution abatement activities on a worldwide basis, last month, UN delegates expressed alarm at a "gathering environmental crisis" that, if unsolved, could "hasten man's extinction."

"Even if we avoid the risk of blowing up the planet, we may, by changing its face, unwittingly be parties to a process with the same fateful outcome," noted Swedish ambassador Sverker Astrom, who introduced the resolution.

U.S. Ambassador J. R. Wiggins said that the world must face the fact that its resources were exhaustible

and not easily renewed. Every year in the United States, he said, 142 million tons of smoke and noxious

fumes are discharged into the atmosphere and 7 million automobiles, 20 million tons of paper, 48 billion

cans and 20 billion bottles and jars are discarded.

Canadian delegate, Robert Kaplan, urged underdevelop-

ed countries not to make the same mistakes as the industrialized nations. The cost of preventative action before pollution occurs is "small in comparison" to the costs of rectifying errors of the past, he said.

National efforts to control pollution are required, he said, as well as international efforts to compensate for pollution abatement measures overlooked by countries on an individual basis.

For the first time in man's history, Mr. Kaplan pointed out, the environmental resources "must be considered in the same economic terms as food, clothing and electricity."

### Johns-Manville Ltd.

## Company Improves Treatment Facilities

Realignment and improvement of wastewater collection and settling pond facilities, according to an OWRC approved plan, have recently been completed by the products division of Canadian Johns-Manville Co. Ltd. in Scarborough.

Features of the improve-

ment include permanent closing of the exit to Lake Ontario from an upper settling pond system, the construction of a 1,200' drainage ditch to the lower settling pond system, realignment and enlargement of the two upper settling ponds, and excavation of two addi-

tional ponds.

In addition, certain wastewater flows, formerly discharging to the storm sewer have been rerouted and the existing lower pond settling system realigned and enlarged.

The total cost of the project, financed by the company, was \$150,000.

## Publications And Films

## Informative Material Available From OWRC

Interested in the operation of a water pollution control plant? Or in the control, via chemicals, of those black-flies and mosquitoes that "bug" your cottage area?

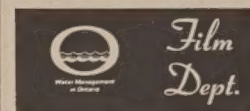
Publications on these and some 30 other topics associated with pollution abatement and water supply are supplied by OWRC. The publications range from material designed as student aids to technical and semi-technical publications avail-

able to municipal officials, interested educationalists, public health personnel, and people in other fields related to water supply and sewage disposal.

A pamphlet series outlines the answers to many problems related with water resources in addition to describing OWRC's role in water activities and what the citizen can do about water pollution.

Brookcovers for students and large 30" by 40" classroom posters for teachers are also available as well as smaller placards on various anti-pollution themes.

Should you wish a copy of the OWRC publications list, detailing all publications and other educational aids, write OWRC, Public Relations and Information, 135 St. Clair Ave. West, Toronto, 7, Ontario.



Currently five films associated with pollution abatement and water supply are available from OWRC. To obtain any of the films, described below, simply drop a line to OWRC Public Relations and Information, noting the film you wish to borrow and the dates it is required.

### THE INVISIBLE RIVER

A history of a modern water supply system, dealing with the task of bringing water to inland communities who have outgrown their ground water supply. The massive project is compared to a child's project on the beach; it highlights the multiple role of water in the community. (19 minutes)

### CLEAN WATER,

### IT'S YOUR DECISION

This animated film points out the need for adequate methods to control pollution. It highlights the causes of the problem and gives a resume of the available processes to combat the danger of pollution in a community. It also discusses methods of purifying drinking water. (14 minutes)

### THE RIVER MUST LIVE

This excellent study of pollution, produced in Europe, shows how a river will die if pollution is not



WATER IS FOCAL POINT in all of OWRC's 30-odd publications. However topics range from material designed as student aids to technical information.

curbed. It outlines the causes and proposes solutions to the problem. (21 minutes)

### A MATTER OF ATTITUDES

An inquiry into the problem of air and water pollution, this film gathers opinions from technically qualified personnel as well as from a cross-section of Canadian citizens. (27 minutes)

### WATER MANAGEMENT IN ONTARIO

A brief and lively look at the water situation in Ontario. Focal point for the film is OWRC activity in various areas of water management. (7 minutes)

Note: At least two weeks' notice is recommended, when ordering films. It is advisable to state second preference.